UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,127	01/17/2002	Rangamani Sundar	110014.137	1702

			EXAMINER
22917 7590 09/08/2004			MEHRPOUR, NAGHMEH

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ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)	
Office Action Summary	10/052,127		SUNDAR ET AL.	
	Examiner		Art Unit	
	Naghmeh Mehrpour		2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _3_.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The information disclosure statement filed reference listed in the information Disclosure

submitted on 04/08/02 have been considered by the examiner (see attached PTO-1449).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-6, 8-10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio

(US Patent Number 2002/0147008 A1) in view Bridgelall (US Publication 2002/0085516 A1).

Regarding claim 1, Kallio teaches a method of managing mobility of a mobile station across an

802.xx wireless local area network (WLAN) and a wireless wide area network (WWAN) in

which a mobile switching center (MSC) has been provisioned to act as a serving MSC for the

WLAN (pages 2-3, section 0024, the 802.11 is IEEE standard for WLAN), comprising:

        a) a mobile station send handover access WWAN to the WLAN (page 6 section 0050);

        (b) in response to step (a), the mobile station issuing a registration request to the serving

MSC (WMC) for the WLAN (page 6 section 0050);

(c) in response to step (b), the serving MSC for the WLAN causing the WWAN to

recognize that the mobile station is registered with the serving MSC (WMC, 220) page 4

section 0031) for the WLAN and that the mobile station is no longer served by a prior MSC

(112) (see figure 2, page 6 section 0050);

(d) the mobile station communicating to entities outside of the WLAN by communicating

with the WLAN via a WLAN protocol and the WLAN communicating with the WWAN via the

serving MSC (WMC) or the WLAN (page 4 section 0036).

Kallio does not specifically mention the step of a mobile station detecting the RF energy of the

WLAN and validating its ability to be a member of the WLAN. However, Bridgelall teaches a

method of a dual mode Radio, which enables a user to seamlessly switch between a WLAN and

a WWAN or vice-versa while roaming in either network area. The Radio essentially consists of

two Radio systems in parallel. A WLAN Radio section comprises an RF section including a

base band signal digitization section linked to a RAM and a digital to analog converter 910

providing Voice over Internet Protocol output and also serving as a microphone (page 6 section

0052). The mobile tunes to an 802.11(b) channel and listens for a beacon frame having a

Service Set Identifier (SSID) with which the station wishes to join. After the mobile unit detects

the beacon (detects RF), the mobile can begin negotiating a connection by proceeding with

authentication and association process as will be described hereinafter (page 5 section 0044).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the above teaching of Bridgelall with Kallio, in order to provide a mobile

station that passively scans WLAN network by listening regularly scheduled beacons sent out

by AP access point, and automatically switches between the two substantially different
networks

Regarding claim 2, Kallio inherently teaches a method wherein the mobile station issues a
registration request by ending a SIP Register message on the WLAN via a WLAN air interface
protocol to request registration therein (page 4 section 0033), and the WLAN communicates the
registration request to the MSC serving the WLAN (page 6 section 0053).

Regarding claim 3, Kallio teaches a method further including the MSC serving the WLAN
sending a de-registration request to an MSC that previously served the mobile station (page 4
section 0036).

Regarding claim 4, Kallio teaches a method wherein the MSC (WMC) serving the WLAN
sends a registration notification message to an HLR to update the WWAN with location
information of the mobile station, and wherein the HLR communicates with a prior MSC to
cancel service thereat of the mobile station (page 5 sections 0040).

Regarding claim 5, Kallio teaches a method wherein the MSC (WMC) serving the WLAN
sends an update location message to an HLR to update the WWAN with location information of
the mobile station, and wherein the HLR communicates with a prior MSC to cancel service
thereat of the mobile station, and wherein the HLR communicates with the MSC (WMC)

serving the WLAN to insert thereat the mobile station as a subscriber for service (page 5 section 0040).

Regarding claim 6, Kallio teaches a method wherein a mobile station detects the WLAN and validates its ability to be a member of the WLAN while the mobile station is participating in a call using a WWAN air interface protocol (page 6 section 0050) and in response thereto sending a message to a source MSC that is servicing the call that a handoff is desired (page 5 section 0050);

the source MSC analyzing the message, establishing itself as an anchor MSC, and establishing communication channels with a target MSC servicing the detected WLAN (page 6 section 0052);

the mobile station beginning communication with the WLAN via a WLAN air interface;

the WLAN forwarding messages to the target MSC serving the WLAN via IP communication;

and the target MSC relaying those communication to the anchor MSC (page 6 section 0052). Kallio does not specifically mention the step of a mobile station detecting the RF energy of the WLAN and validating its ability to be a member of the WLAN. However, Bridgelall teaches a the step of a mobile station detecting the RF energy of the WLAN and validating its ability to be a member of the WLAN (page 5 section 0044).Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bridgelall with Kallio, in order to provide a mobile station that passively scans WLAN network by listening regularly scheduled beacons sent out by an AP access point and automatically switches between the two substantially different network.

Regarding claim 8, Kallio teaches a method further including a mobile station determining that it should communicate via a WWAN air interface protocol and not via a WLAN air interface protocol (page 6 section 0053); the mobile station issuing a registration request to the WWAN via a base station controller (BSC) and MSC corresponding to a location in which the mobile station resides (Page 6 section 0052);

the corresponding MSC causing the WWAN to recognize that the mobile station is registered with the corresponding MSC and that the mobile station is no longer served by a prior MSC, which served the mobile station when it was communicating according to a WLAN air interface protocole (page 6 sections 0057, 0058).

Regarding claim 9, Kallio teaches a method wherein a mobile station determines that it should communicate according to a WWAN air interface protocol while the mobile station is participating in a call under a WLAN air interface protocol and in response thereto sending a message to a source MSC (WMC) that is servicing the call that a handoff is desired (page 6 sections 0053, 0054);

the source MSC analyzing the message, establishing itself as an anchor MSC (WMC) (page 6 section 0054), and establishing communication channels with a target MSC servicing a geographic WWAN area in which the mobile station resides (page 6 section 0054, 0055);

the mobile station beginning communication with the WWAN and the target MSC relaying those communication to the anchor MSC (page 6 sections 0056).

Regarding claim 10, Kallio teaches a method wherein the mobile station informs the MSC

(WMC) serving the WLAN of the cell ids of the WWAN geographic area (page 5 section

0054), and wherein the source MSC uses the cell ids information to establish communication

channels with the target MSC (page 6 section 0056).

4.   Claims 7, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US

Patent Number 2002/0147008 A1) in view Bridgelall (US Publication 2002/0085516 A1) in

further view of Chaney et al. (US Publication 2003/0108000 A1).

Regarding claim 7, Kallio teaches a method wherein the mobile stations sends via a WLAN air

interface protocol a handoff request message as an overloaded SIP command and the WLAN

communicates the handoff request message to the target MSC (page 4 section 0033). Kallio

teaches a method of handoff from WWAN to WLAN and vise versa utilizing session Initiation

Protocol (SIP) control signaling for call set-up and call control (page 4 section 0033). Kallio

modified by Bridgelall fails to teach the Handoff request is an overload SIP command. However

Chaney teaches a system and method of providing a subscriber service to service users in a

telecommunications network. In networks utilizing Session Initiation Protocol (SIP) control

signaling for call setup and control, the SIP REGISTER message is modified to indicate service

capability information and optionally a traffic load indication for service providers (page 3

sections 0032, 0036 and abstract). Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention to combine the above teaching Chaney with Kallio

modified by Bridgelall, in order to prevent congestion by notifying the system of overload and

invite one system to handoff to other.

Regarding claim 11, Kallio teaches a method of handoff from WWAN to WLAN and vise versa

utilizing session Initiation Protocol (SIP) control signaling for call set-up and call control (page

4 section 0033). Kallio modified by Bridgelall fails to teach the Handoff request is an overload

SIP command. However Chaney teaches a system and method of providing a subscriber service

to service users in a telecommunications network. In networks utilizing Session Initiation

Protocol (SIP) control signaling for call setup and control, the SIP REGISTER message is

modified to indicate service capability information and optionally a traffic load indication for

service providers (page 3 sections 0032, 0036 and abstract).Therefore, it would have been

obvious to one of ordinary skill in the art at the time of the invention to combine the above

teaching Chaney with Kallio modified by Bridgelall, in order to prevent congestion by notifying

the system of overload and invite one system to handoff to other.

5.   Claim 12, is rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US

Patent Number 2002/0147008 A1) in view Bridgelall (US Publication 2002/0085516 A1)

in further of view Yukie (US Patent Number 2002/0036392 A1).

Regarding claim 12, Kallio teaches a method wherein a mobile station determines that it should

communicate according to a WWAN air interface protocol while the mobile station is

participating in a call under a WLAN air interface protocol (Page 5 sections 0040, 0042), and

further Kallio teaches VLR may be used to hold temporary information about active subscribers

that are operating within the control of that particular MSC (page 3 section 0026).

Kallio fails to explain the procedures of handoff using the temporary number. However, Yukie

teaches the step of in response to sending a message to a source MSC to request a temporary

local directory number (TLDN) the source MSC providing a TLDN to the mobile station;

the source MSC causing a called party of the call to be placed on hold and the mobile station

requests a call to be made using the TLDN as a called party;

the WWAN causing call connections to be made connecting the mobile station with the TLDN

to resume the call (page 6 section 0059). Therefore, it would have been obvious to one of

ordinary skill in the art at the time of the invention to combine the above teaching of Yukie with

Kallio modified by Bridgelall, in order to provide a system with higher information transfer

rate, by transferring data to mobile unit automatically through a wireless package switched

network and a wireless circuit switch network, without any interruption.

6.   Claim 13, is rejected under 35 U.S.C. 103(a) as being unpatentable over Kallio (US

Patent Number 2002/0147008 A1) in view of Chaney et al. (US Publication 2003/0108000 A1).

Regarding claim 13, Kallio teaches a wireless communication system, including a wireless local

area network (WLAN) including logic to communicate according to a WLAN air interface

protocol (page 4 section 0038);

a wireless wide area network (WWAN) including logic to communicate according to a WWAN

air interface protocol, the WWAN including at least one MSC (WMC) for serving the WLAN

and in IP communication therewith (Page 4 section 0036);

a mobile station including logic to communicate according to the WLAN air interface protocol,

logic to communicate according to the WWAN air interface protocol (pages 2-3 section 0024),

and logic to communicate mobility management messages to the WLAN as SIP messages for

forwarding to the at least one MSC (page 3 section 0029, page 4 section 0033). Kallio teaches a

method of handoff from WWAN to WLAN and vise versa utilizing session Initiation Protocol

(SIP) control signaling for call set-up and call control (page 4 section 0033). Kallio fails to

teach the Handoff request is an overload SIP command. However Chaney teaches a system and

method of providing a subscriber service to service users in a telecommunications network. In

networks utilizing Session Initiation Protocol (SIP) control signaling for call setup and control,

the SIP REGISTER message is modified to indicate service capability information and

optionally a traffic load indication for service providers (page 3 sections 0032, 0036 and

abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of

the invention to combine the above teaching Chaney with Kallio, in order to prevent congestion

by notifying the system of overload and invite one system to handoff to other.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Farah et al. (US Patent 6,501, 946 B1) disclose multiple uniquely distiquishable wireless handsets using a single mobile identification numbers

Ostling (US Patent Number 6,327,470 B1) disclose handover between fixed and mobile networks for dual mode phones

Adachi et al. (US Patent Number 5,777,991) disclose personal communication apparatus with call switching modem and packet switching modem

Seveik (US Patent Number 6,266,699 B1) disclose control in an intelligent network

Rankin (US Publication number 2003/0100315) disclose Mobile detecting RF channel or Beacon infrastruction

8.   **Any responses to this action should be mailed to:**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naghmeh Mehrpour whose telephone number is 703-308-7159. The examiner can normally be reached on 8:00- 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid be reached on (703) 306-3061.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NM

August 26, 2004